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Abstracts

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GISA (Glycopeptide-Intermediate *Staphylococcus aureus*) Selected by Vancomycin Treatment of Experimental Endocarditis Persist after Treatment Arrest In Vivo, but are not Detected by Vegetation Cultures In Vitro

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Background: Laboratory diagnosis of glycopeptide-intermediate *Staphylococcus aureus* (GISA) and their heterogeneous-GISA (h-GISA) precursors is difficult. Thus, it is possible that vancomycin failures against supposedly vancomycin-susceptible S. *aureus* are in fact due to GISA or h-GISA. We tested this hypothesis during vancomycin treatment of experimental endocarditis due to a vancomycin-susceptible, methicillin-resistant S. *aureus* (MRSA).
Methods: Rats with aortic experimental endocarditis due to the vancomycin-susceptible MRSA M1 were treated with human-like kinetics of vancomycin (1 g i.v. every 12 h). Treatment was started 16 h after bacterial challenge and given for 2 days. Groups were killed either at the start of therapy, 8 h or 3 days after treatment arrest. Population analysis was done directly on vegetation homogenates, or after 1 subculture in drug-free medium to mimic standard diagnostic procedures.
Results: The vancomycin-susceptible parent had an MIC of vancomycin of 2 mg/l, and grew on <4 mg/l in population analysis. Eight hours after treatment arrest, 6/13 rats had still positive valve cultures, one of which was harboring an h-GISA (growing on 8 mg/l of vancomycin in population analysis). Three days after treatment arrest, 6/13 rats had positive valve cultures, all of which was harboring h-GISA (growing on 8 mg/l of vancomycin). In contrast, 1 single subculture of vegetations in drug-free broth was enough to revert all the h-GISA to the susceptible pattern of the parent.
Conclusions: Vancomycin selected for h-GISA during therapy of experimental endocarditis due to vancomycin-susceptible S. *aureus*. These h-GISA were associated with vancomycin failure. The h-GISA phenotype persisted in vivo even after arrest of vancomycin. On the other hand, the h-GISA phenotype was missed in vitro after a single passage on drug-free medium. Thus, h-GISA escape detection in clinical samples if they are subcultured before susceptibility tests.

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Age Limits do not Replace Serologic Tests for Immune Status Against Measles

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Background: Measles are a highly contagious and preventable childhood infection. Disease may be severe in adults and a single dose of vaccine protects only to 90%. Because of a herd immunity (max. 85% vaccine coverage, seroprevalence <95%) epidemics regularly occur in Switzerland and in other countries. According to common belief and federal recommendations, persons over 40 years of age are considered immune due to childhood exposure before vaccine availability since 1964. We questioned this presumption by a mass serologic screening in the University Hospitals of Geneva.
Methods: In January 2005 4 Health Care Workers (HCW) were victim of a nosocomial outbreak and 35 other persons (8 adults and 27 adolescents) developed measles in the community. By fear of a large epidemic and lack of knowledge of the immunity status of HCWs, a mass screening and/or vaccination campaign was started. The serologic exams were made by XXX.
Results: 117 of 2600 adult HCWs and patients were seronegative for measles (4.5%). 31 seronegative persons were older than 40 years (26% of all seronegative adults), the oldest being a 76 years old HCW. 13 HCWs were immunocompetent and 1 HCW had smoldering myeloma. Among 7 patients had transplantation (TPL): 2 bone marrow TPL, 4 renal TPL and 1 cardiac TPL, 1 had cirrhosis and

1 had AIDS. No testing of cellular immunity was performed.
Conclusion: Age limits do not replace the serologic immune status of adults for measles. Up to a quarter of adults more than 40 years may be seronegative. Unless cellular immunity is not protecting from acquiring this highly contagious disease, these persons profited so far from the herd immunity in the society.

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Postsinusitis Staphylococcal Pituitary Abscess

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Objective: Single pituitary abscesses are in itself rare. A postsinusitis pituitary abscess by *Staphylococcus aureus* is a rarity too, since the germ is frequently found in non-operative sinusitis.
Case report: A 71 year old healthy man had been treated for frontal community-acquired sinusitis with cefutoxime during five days with consequent clinical amelioration but persistence of fatigue. Endocrinological exams revealed a panhypopituitarism. IRM examination of the sellar region showed a tumoral mass of $14 \times 9 \times 11$ mm size. There was no other suspect region either in radiological or in clinical examinations. Neurosurgical excision was performed in suspicion of a neoplasia, but the surgeons found franc pus. The culture identified methicillin-sensitive *S. aureus* (MSSA). Antibiotic treatment with intravenous Flucloxacillin 6×2 g/d during six weeks was successful.
Conclusion: Pituitary abscesses by MSSA and clinical late onset abscesses after "banal" episodes of sinusitis do exist (even by MSSA) and are difficult to be diagnosed. Literature is spearse. To our knowledge this would be the second case of *S. aureus* described in the literature. Further studies are needed to access the prevalence of this underreported, unusual, non-bacteremic origin in relation to classical postoperative abscesses by *S. aureus*.

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Leishmaniasis in Immunocompromised Patients: Shift in Risk Factors from HIV to Other Immunosuppressive Conditions. Retrospective Analysis of 12 Cases and Review of the Literature

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Introduction: Leishmaniasis is a rare disease in Western Europe. Migration can lead to emergence of cases in non-endemic regions. Underlying immunosuppression is a risk factor for severe course of infection. We were interested in frequency of disease in our area and risk factors for developing symptomatic disease.
Materials & Methods: We retrospectively analyzed all cases of leishmaniasis diagnosed and/or treated in our hospital and searched charts for underlying diseases and epidemiology.
Results: From 1990 to 2005 we found 12 cases diagnosed with leishmaniasis. 8 patients were diagnosed and treated in our hospital, 4 patients were treated in other hospitals situated nearby. The diagnosis of infection with leishmania spp was confirmed histologically in 11 patients. In 1 patient only a serology was done to confirm diagnosis. Polymerase chain reaction with identification of the leishmanial strain was available in 6 cases. 7 patients were originally from a country with endemic leishmaniasis (5 from Italy, 1 from Portugal and 1 from Turkey). 5 patients were Swiss and acquired disease during vacation in endemic countries (1 to South America, 3 to Italy and 1 to Malta). In 9 of 12 patients (75%) an immunosuppressive condition was found. 4 patients had AIDS with a CD4 cell count of less than 100/mm^3. 5 patients had other immunocompromising conditions (3 patients with a malignancy treated with chemo-/radiotherapy, 1 patient under treatment with steroids, 1 patient with diabetes). In 3 patients no immunosuppression was found. 3 of the 4 HIV-positive patients developed symptoms of invasive leishmaniasis before the introduction of highly active antiretroviral therapy (1990–1998). After the year 2000 only one patient was HIV-positive, whereas other tumors/immunosuppressant therapies were more common.